

MULTIMEDIA



UNIVERSITY

STUDENT ID NO

--	--	--	--	--	--	--	--	--	--

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2015/2016

MDE1033 – RAPID MODELLING

(All sections / Groups)

07 MARCH 2016

9.00 a.m. - 11.00 a.m.

(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 4 pages with 5 questions only.
2. Answer **FOUR** out of **FIVE** questions. All questions carry equal marks and the distribution of the marks for each question is given.
3. Please write all your answers in the Answer Booklet provided.

1. A) Discuss what you understand of “concept modeler”.
(9 marks)

- B) List 8 Industries that already adopting rapid prototyping in their business.
(16 marks)

(Total 25 marks)

2. A) Discuss 6 usage of rapid prototyping.
(13 marks)

- B) Fill in the blank of these statements.

- i. ZCorp Z402 system: 3D printing using industrial _____ material and is very _____.
- ii. _____ (FDM): produces models by wax or _____ plastic using motion control and extrusion technology similar to a _____.
- iii. _____ Manufacturing (LOM): builds physical models by stacking _____ and plastic cutting using laser.
- iv. Selective _____ Sintering (SLS): can build with a variety of materials and works by selective melting together _____ with a laser into a desired shape.
- v. SLA: _____ Appartus is a liquid based RP process which builds parts directly from CAD by selectively curing or _____ a _____ resin with a relatively _____ laser.

(13 marks)

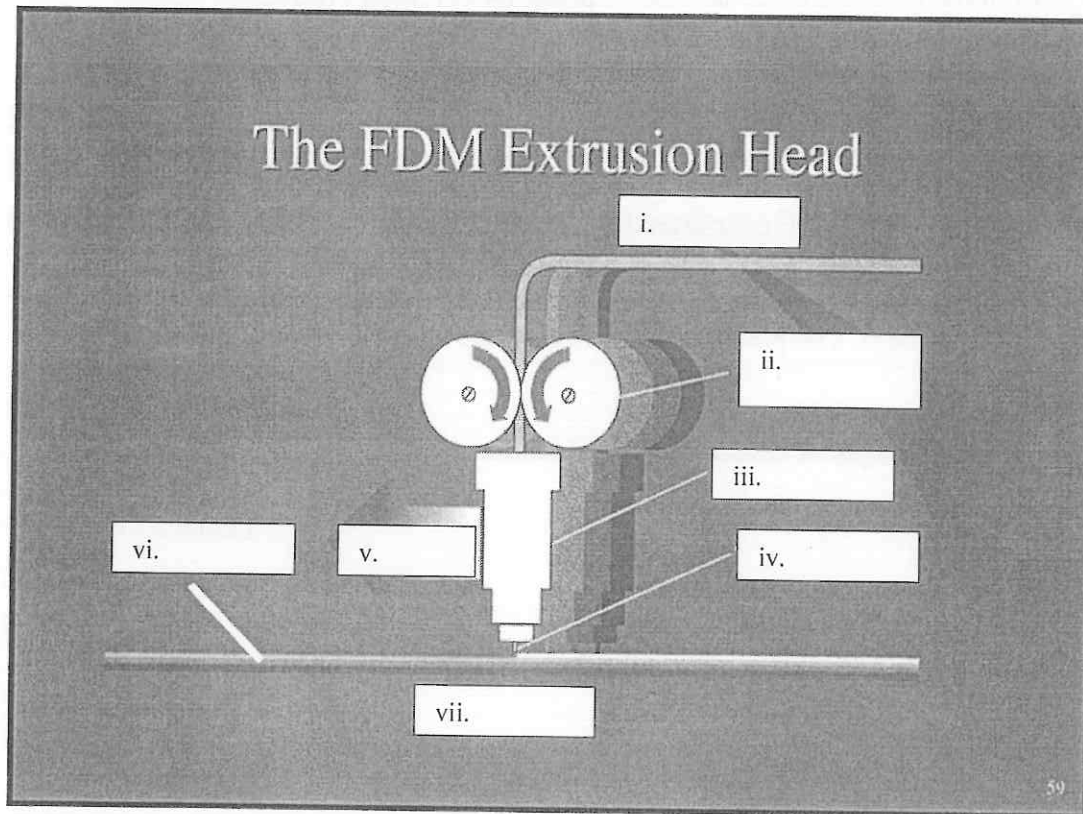
(Total 25 marks)

Continued

3. A) List 6 types of Functional Modellers.

(18 marks)

- B) Label this FDM Extrusion Head



(7 marks)

(Total 25 marks)

4. A) Discuss 5 advantages of Laminated Object Manufacturing (LOM)

(10 marks)

- B) Discuss 5 disadvantages of Laminated Object Manufacturing (LOM)

(10 marks)

- C) List 5 softwares that designer can use to produce 3D files for rapid prototyping

(5 marks)

(Total 25 marks)

Continued

5. A). Discuss 4 opportunities product that rapid prototyping may contribute to bio medical field.

(8 marks)

B) Fill in the blank of these statements about Direct Shell Production (DSP).

- i. The DSP system creates _____ shells directly from 3-D CAD designs and no tooling or _____ are required.
- ii. The process works via a _____ moving over a fine layer of _____ powder, depositing a _____ binder layer-by-layer to define a cross section of the mold.
- iii. The process is repeated until the entire mold is printed, resulting in a rigid _____ mold. The process produces castings with _____ quickly.

(7 marks)

C) List 5 advantages of Direct Shell Production.

(10 marks)

(Total 25 marks)

End of Page.